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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,909	01/17/2002	Masayoshi Nishitani	24886	3391

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EXAMINER	
CERVETTI, DAVID GARCIA	
ART UNIT	**PAPER NUMBER**
2136	

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/046,909	NISHITANI ET AL.	
	Examiner	Art Unit	
	David G. Cervetti	2136	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 January 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☒ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/20/02, 11/12/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braudaway et al. (US Patent Number: 5,825,892), and further in view of Powell et al. (US Patent Number: 6,137,892).

Regarding claim 1, Braudaway et al. teach a digital watermarking apparatus comprising: area specifying means for specifying a predetermined area in which a digital watermark is to be embedded, said predetermined area being included in received image signals (column 8, lines 1-6); encryption data generating means for encrypting the digital watermark and for outputting encryption data (column 7, lines 1-10).

Braudaway et al. do not disclose expressly mixing means for comparing an average of intensity values or color difference values of all pixels in a first area in the predetermined area in the received image signals with an intensity value or a color difference value of each pixel in a second area that is an area other than the first area in the predetermined area to find, for all pixels in the second area, a first counter value and a second counter value, said first counter value indicating a number of pixels each of which has an intensity value or a color difference value larger than the average, said

second counter value indicating a number of pixels each of which has an intensity value or a color difference value smaller than the average, for transforming the intensity value or the color difference value of each pixel in the second area such that a relation between the first counter value and the second counter value becomes a preset relation according to a first value or a second value of the encryption data from said encryption data generating means, and for outputting the received image signals as watermarked image signals.

However, Powell et al. teach mixing means for comparing an average of intensity values or color difference values of all pixels in a first area in the predetermined area in the received image signals with an intensity value or a color difference value of each pixel in a second area that is an area other than the first area in the predetermined area (column 4, lines 10-34) to find, for all pixels in the second area, a first counter value and a second counter value, said first counter value indicating a number of pixels each of which has an intensity value or a color difference value larger than the average, said second counter value indicating a number of pixels each of which has an intensity value or a color difference value smaller than the average, for transforming the intensity value or the color difference value of each pixel in the second area (column 7, lines 5-40) such that a relation between the first counter value and the second counter value becomes a preset relation according to a first value or a second value of the encryption data from said encryption data generating means, and for outputting the received image signals as watermarked image signals (column 4, lines 52-67, column 5, lines 1-30). Therefore, it would have been obvious to one having ordinary skill in the art at the time

the invention was made to use difference of averages to create the digital watermark in the system of Braudaway et al. One of ordinary skill in the art would have been motivated to perform such a modification to permit modification of the image without losing the digital signature (Powell et al., column 1, lines 37-49).

Regarding claim 2, the combination of Braudaway et al. with Powell et al. teaches the limitations as set forth under claim 1 above. Furthermore, Powell et al. teaches wherein said mixing means comprises: average calculating means for calculating the average of the intensity values or the color difference values of the pixels in the first area in the predetermined area of the received image signals (column 4, lines 22-35); counter value calculating means for comparing the average with the intensity value or the color difference value of each pixel in the second area that is an area other than the first area in the predetermined area to calculate, for all pixels in the second area, the first counter value and the second counter value, said first counter value indicating the number of pixels each of which has an intensity value or a color difference value larger than the average, said second counter value indicating the number of pixels each of which has an intensity value or a color difference value smaller than the average; counter value comparing means for comparing the first counter value and the second counter value; and transforming means for transforming the intensity values or the color difference values of all pixels in the second area (column 5, lines 1-15) such that, when the value of the encryption data from said encryption generating means is the first value, said counter value comparing means gives a comparison result indicating that the first counter value is larger than the second counter value and such that, when

the value of the encryption data from said encryption generating means is the second value, said counter value comparing means gives a comparison result indicating that the first counter value is smaller than the second counter value, wherein the transformed signals are output as the watermarked image signals, the intensity value or the color difference value or each pixel in the second area of the transformed signals being transformed by said transforming means according to the value of the encryption data (column 4, lines 1-67, column 5, lines 1-24, column 8, lines 1-5).

Regarding claim 3, Braudaway et al. teach a digital watermarking method comprising: a first step for specifying a predetermined area in which a digital watermark is to be embedded, said predetermined area being included in received image signals (column 8, lines 1-6); a second step for encrypting the digital watermark and for outputting encryption data (column 7, lines 1-10).

Braudaway et al. do not disclose expressly a third step for comparing an average of intensity values or color difference values of all pixels in a first area in the predetermined area in the received image signals with an intensity value or a color difference value of each pixel in a second area that is an area other than the first area in the predetermined area to find, for all pixels in the second area, a first counter value and a second counter value, said first counter value indicating a number of pixels each of which has an intensity value or a color difference value larger than the average, said second counter value indicating a number of pixels each of which has an intensity value or a color difference value smaller than the average, and a fourth step for transforming

the intensity value or the color difference value of each pixel in the second area such that a relation between the first counter value and the second counter value becomes a preset relation according to a first value or a second value of the encryption data and for outputting the received image signals as watermarked image signals.

However, Powell et al. teach a third step for comparing an average of intensity values or color difference values of all pixels in a first area in the predetermined area in the received image signals with an intensity value or a color difference value of each pixel in a second area that is an area other than the first area in the predetermined area (column 4, lines 10-34) to find, for all pixels in the second area, a first counter value and a second counter value, said first counter value indicating a number of pixels each of which has an intensity value or a color difference value larger than the average, said second counter value indicating a number of pixels each of which has an intensity value or a color difference value smaller than the average, and a fourth step for transforming the intensity value or the color difference value of each pixel in the second area (column 7, lines 5-40) such that a relation between the first counter value and the second counter value becomes a preset relation according to a first value or a second value of the encryption data and for outputting the received image signals as watermarked image signals (column 4, lines 52-67, column 5, lines 1-30). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use difference of averages to create the digital watermark in the system of Braudaway et al. One of ordinary skill in the art would have been motivated to perform

such a modification to permit modification of the image without losing the digital signature (Powell et al., column 1, lines 37-49).

Regarding claim 4, the combination of Braudaway et al. with Powell et al. teaches the limitations as set forth under claim 3 above. Furthermore, Powell et al. teaches wherein said third step comprises: a fifth step for calculating the average of the intensity values or the color difference values of the pixels in the first area in the predetermined area of the received image signals (column 4, lines 22-35); and a sixth step for comparing the average with the intensity value or the color difference value of each pixel in the second area that is an area other than the first area in the predetermined area to calculate, for all pixels in the second area, the first counter value and the second counter value, said first counter value indicating the number of pixels each of which has an intensity value or a color difference value larger than the average, said second counter value indicating the number of pixels each of which has an intensity value or a color difference value smaller than the average, and wherein said fourth step comprises: a seventh step for comparing the first counter value and the second counter value; and an eighth step for transforming the intensity values or the color difference values of all pixels in the second area (column 5, lines 1-15) such that, when the value of the encryption data is the first value, a comparison result indicating that the first counter value is larger than the second counter value is obtained and such that, when the value of the encryption data is the second value, a comparison result indicating that the first counter value is smaller than the second counter value is obtained (column 4, lines 1-67, column 5, lines 1-24, column 8, lines 1-5).

Regarding claim 5, Braudaway et al. teach a digital watermark reproducing apparatus comprising: area specifying means for receiving digitally watermarked image signals as input signals and for specifying a predetermined area, said digitally watermarked image signals being generated by transforming signals in the predetermined area of the image signals according to a value of encryption data generated by encrypting a digital watermark (column 16, lines 1-30);

Braudaway et al. do not disclose expressly extracting means for comparing an average of intensity values or color difference values of all pixels in a first area in the predetermined area in the digitally watermarked image signals with an intensity value or a color difference value of each pixel in a second area that is an area other than the first area in the predetermined area to find, for all pixels in the second area, a first counter value and a second counter value, said first counter value indicating a number of pixels each of which has an intensity value or a color difference value larger than the average, said second counter value indicating a number of pixels each of which has an intensity value or a color difference value smaller than the average, and for extracting from the predetermined area the encryption data which is determined to be a first value or a second value according to a relation between the first counter value and the second counter value; and a decrypting means for decrypting the extracted the encryption data to an original watermark for output.

However, Powell et al. teach extracting means for comparing an average of intensity values or color difference values of all pixels in a first area in the

predetermined area in the digitally watermarked image signals with an intensity value or a color difference value of each pixel in a second area that is an area other than the first area in the predetermined area (column 6, lines 12-28) to find, for all pixels in the second area, a first counter value and a second counter value, said first counter value indicating a number of pixels each of which has an intensity value or a color difference value larger than the average, said second counter value indicating a number of pixels each of which has an intensity value or a color difference value smaller than the average (column 6, lines 29-54), and for extracting from the predetermined area the encryption data which is determined to be a first value or a second value according to a relation between the first counter value and the second counter value; and a decrypting means for decrypting the extracted the encryption data to an original watermark for output (column 6, lines 55-64). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use difference of averages to create the digital watermark in the system of Braudaway et al. One of ordinary skill in the art would have been motivated to perform such a modification to permit modification of the image without losing the digital signature (Powell et al., column 1, lines 37-49).

Regarding claim 6, the combination of Braudaway et al. with Powell et al. teaches the limitations as set forth under claim 5 above. Furthermore, Braudaway et al. teach wherein said extracting means comprises: average calculating means for calculating the average of the intensity values or the color difference values of the pixels in the first area in the predetermined area of the digitally watermarked image signals (column 17, lines 5-44); counter value calculating means for comparing the average

with the intensity value or the color difference value of each pixel in the second area that is an area other than the first area in the predetermined area to calculate, for all pixels in the second area, the first counter value and the second counter value, said first counter value Indicating the number of pixels each of which has an intensity value or a color difference value larger than the average, said second counter value Indicating the number of pixels each of which has an intensity value or a color difference value smaller than the average (column 16, lines 31-67); counter value comparing means for comparing the first counter value and the second counter value; and encryption data extracting means for extracting the encryption data determined to be the first value when said counter value comparing means gives a comparison result indicating that the first counter value is larger than the second counter value or for extracting the encryption data determined to be the second value (column 16, lines 31-67) when said counter value comparing means gives a comparison result indicating that the first counter value is smaller than the second counter value (column 21, lines 5-37).

Regarding claim 7, Braudaway et al. teach a digital watermark reproducing method comprising: a first step for receiving digitally watermarked image signals as input signals and for specifying a predetermined area, said digitally watermarked image signals being generated by transforming signals in the predetermined area of the image signals according to a value of encryption data generated by encrypting a digital watermark (column 16, lines 1-30).

Braudaway et al. do not disclose expressly a second step for comparing an average of intensity values or color difference values of all pixels in a first area in the predetermined area in the digitally watermarked image signals with an intensity value or a color difference value of each pixel in a second area that is an area other than the first area in the predetermined area to find, for all pixels in the second area, a first counter value and a second counter value, said first counter value indicating a number of pixels each of which has an intensity value or a color difference value larger than the average, said second counter value indicating a number of pixels each of which has an intensity value or a color difference value smaller than the average; a third step for extracting from the predetermined area the encryption data which is determined to be a first value or a second value according to a relation between the first counter value and the second counter value; and a fourth step for decrypting the extracted encryption data to an original watermark for output.

However, Powell et al. teach a second step for comparing an average of intensity values or color difference values of all pixels in a first area in the predetermined area in the digitally watermarked image signals with an intensity value or a color difference value of each pixel in a second area that is an area other than the first area in the predetermined area (column 6, lines 12-28) to find, for all pixels in the second area, a first counter value and a second counter value, said first counter value indicating a number of pixels each of which has an intensity value or a color difference value larger than the average, said second counter value indicating a number of pixels each of which has an intensity value or a color difference value smaller than the average

(column 6, lines 29-54); a third step for extracting from the predetermined area the encryption data which is determined to be a first value or a second value according to a relation between the first counter value and the second counter value; and a fourth step for decrypting the extracted encryption data to an original watermark for output (column 6, lines 55-64). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use difference of averages to create the digital watermark in the system of Braudaway et al. One of ordinary skill in the art would have been motivated to perform such a modification to permit modification of the image without losing the digital signature (Powell et al., column 1, lines 37-49).

Regarding claim 8, the combination of Braudaway et al. with Powell et al. teaches the limitations as set forth under claim 7 above. Furthermore, Braudaway et al. teach wherein said second step comprises: a fifth step for calculating the average of the intensity values or the color difference values of the pixels in the first area in the predetermined area of the digitally watermarked image signals (column 17, lines 5-44); and a sixth step for comparing the average with the intensity value or the color difference value of each pixel in the second area that is an area other than the first area in the predetermined area to calculate, for all pixels in the second area, the first counter value and the second counter value, said first counter value indicating the number of pixels each of which has an intensity value or a color difference value larger than the average, said second counter value indicating the number of pixels each of which has an intensity value or a color difference value smaller than the average (column 16, lines 31-67), and wherein said third step comprise: a seventh step for comparing the first

counter value and the second counter value; and an eighth step for extracting the encryption data determined to be the first value when said seventh step gives a comparison result indicating that the first counter value is larger than the second counter value or for extracting the encryption data determined to be the second value (column 16, lines 31-67) when said seventh step gives a comparison result indicating that the first counter value is smaller than the second counter value (column 21, lines 5-37).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David G. Cervetti whose telephone number is (571) 272-5861. The examiner can normally be reached on Monday-Friday 7:00 am - 5:00 pm, off on Wednesday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R. Sheikh can be reached on (571)272-3795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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